



**TITLE: ELECTROSTATIC PRINTING OF FUNCTIONAL TONER
MATERIALS FOR ELECTRONIC MANUFACTURING APPLICATIONS**

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CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the priority of International Application Serial Number PCT/US99/23612 filed October 12, 1999, now abandoned, which claimed priority from U.S. Provisional Patent Application Serial No. 60/104,079 filed October 13, 1998, the entire contents and subject matter of which is hereby incorporated in total by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention.

The invention concerns a process for the electrostatic printing of functional materials configured as liquid toners on relatively thick glass plates for various manufacturing applications.

2. Description of the related art.

Flat panel displays or wall type television sets have been discussed in the prior art literature for about forty years, but few have been produced. As of mid 1998 there were three primary flat panel technologies for flat panel displays:

- a. Field Emission Displays (FED's.)
- b. Plasma Displays
- c. Active-Matrix-Liquid-Crystal-Displays (AMLCD)

Field emission displays are a relatively new technology. They consist of an array of field emission points in a vacuum, spraying electrons onto a phosphor screen. With three color dots on the screen and addressability of the emitting points, one has a full color display.

The Plasma displays have been produced for about 25 years, mostly as a single color orange neon "glow discharge". In the last 10 years, UV light from this discharge has been "harnessed" to excite three color phosphors to produce a color plasma displays. 40" diagonal displays have been recently announced, but their cost is about \$10,000.

Active matrix liquid crystal displays have been intensively developed for production. Billions of dollars have been spent on their development over the last 20 years, but the results

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